underneath the etching mask, wherein an etching agent is used that avoids attacking a silicon oxide of the etching mask, such that exposed regions of the at least one patternable polymer resist layer are ablated in a vertical direction, and side surfaces of regions protected by the etching mask are uncovered; and

filling unexposed regions of the at least one patternable resist layer with organometallic compounds arranged in a monomer form, the organometallic compounds being suitable for filling an already existing pattern of the at least one patternable polymer resist layer and for breaking up and repatterning the already existing pattern, wherein an optical property of the optoelectronic component is selectively changeable as a function of a type of the monomeric organometallic compounds and as a function of a temperature and an application time, the filling of the unexposed regions of the at least one patternable resist layer occurring, through one of the gas-phase diffusion and the liquid-phase diffusion and with an application of heat, from a surface of the unexposed regions through the etching mask, and occurring from the side surfaces uncovered by the deep etching,

so that at least one of the active and the passive polymer-based components for use in integrated optics is fabricated.

REMARKS

Claims 7 to 14 are now pending.

Claim 7 has been amended. No new matter has been added. A version showing changes made to claim 7 is attached hereto.

Claims 7, 9 to 11 and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Brenner et al. ("Deep Proton Irradiation of PMMA for a 3D Integration of Micro-Optical Components", Integrated Optics and Micro-Optics with Polymers, Germany, 1993) (the "Brenner reference") in view of Eguchi et al. ("Gradient Index Polymer Optical Waveguide Patterned by Ultraviolet Irradiation," Japanese Journal of Applied Physics, Japan, 1989) (the "Eguchi reference").

The Brenner reference purportedly concerns a three-dimensional optics system employing polymethyl methacrylate (PMMA) as a substrate material and focuses on an integration method for passive microoptical components based on deep proton irradiation. (See Brenner reference, page 161). The Brenner reference does not describe or suggest filling the unexposed regions of the at least one patternable resist layer with organometallic compounds where the optoelectronic component is selectively changeable as a function of the